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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,635	02/24/2004	Christopher D. Starta	Starta 60/529,351	2404
7590 01/19/2006				
James G. Uber, Esq. Mine Safety Appliances Company P.O. Box 426 Pittsburgh, PA 15230-0426				
EXAMINER HANNAHER, CONSTANTINE				
ART UNIT		PAPER NUMBER		
2884				

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/785,635	STARTA ET AL.	
	Examiner	Art Unit	
	Constantine Hannaher	2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 5-11, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20050207</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119(e), a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the

entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Oath/Declaration

3. When applicant states that the post office address is the "same" as residence applicant's representative should keep in mind that a "residence" is a city and state or foreign country. The superfluous information given for residence is accepted as constituting a mailing address. The Office

has been able to discern the city and state or foreign country of residence from the information supplied. See the requirements of 37 CFR 1.63(c)(1) as amended effective November 7, 2000.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: **290**. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities: paragraph [0043], "intrinsically save" where --intrinsically safe-- is meant.

Appropriate correction is required.

Claim Objections

6. Claim 3 is objected to because of the following informalities: "source in an" where --source is an-- is meant. Appropriate correction is required.

7. Claim 16 is objected to because of the following informalities: "and" is missing from the third line. Appropriate correction is required.

8. Claim 18 is objected to because of the following informalities: "to be place in" where --to be placed in-- is meant. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe an energy source which emits energy in the visible light spectrum for the purpose of interaction.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear whether the claim is infringed if the sensor has the capability of entry upon switch activation recited or when the activation actually causes the entry. *IPXL Holdings LLC v. Amazon.com Inc.*, 77 USPQ2d 1140 (CA FC 2005).

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 1, 2, and 13 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Detwiler *et al.* (US005321492A).

With respect to independent claim 1, Detwiler *et al.* discloses a method of communicating information from a sensor (column 1, lines 10-11), the sensor (Fig. 1) including a source of energy 14 within a housing 10, energy 26 from the energy source 14 interacting with an analyte in a detectable manner (reflectance, column 2, lines 54-56), the sensor further having at least one transmissive section 18 in the housing 10 through which energy 26 can be transmitted. The method of Detwiler *et al.* comprises the step of modulating the emission of energy 26 from the energy source 14 in a manner that corresponds to information to be transmitted from the sensor through the transmissive section 18 (column 3, lines 58-63).

With respect to dependent claim 2, the sensor in the method of Detwiler *et al.* has at least a sensing mode as recited (column 3, lines 46-57) and a communications mode as recited (see rejection of claim 1). The method of Detwiler *et al.* further comprises the step of initiating the communication mode by placing an activator 126 in operative connection with the sensor (Fig. 2, column 4, lines 38-63).

With respect to independent claim 13, Detwiler *et al.* discloses a sensor (Fig. 1) for detecting the presence of an analyte in an environment being tested (column 2, lines 40-43) comprising a housing 10, an energy source 14 within the housing, at least one detector 20 within the housing adapted to detect interaction between the energy 26 emitted by the energy source 14 and the analyte (column 3, lines 49-57), a transmissive section 18 in the housing 10 through which energy 26 emitted from the energy source 14 can be transmitted, and a controller 16 within the housing 10 in operative

connection with the energy source **14** to modulate emission of energy **26** from the energy source in a manner to communicate information through the transmissive section **18** (column 3, lines 58-63).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 3, 4, 12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detwiler *et al.* (US005321492A) in view of Winkler *et al.* (US005923035A).

With respect to dependent claim 3, the energy source **14** in the method of Detwiler *et al.* is an infrared energy source (column 3, lines 44-45) and the activator **126** initiates the communication mode in a wireless manner (*e.g.*, column 5, lines 10-16), but the transmissive section **18** is not a window and the housing **10** is not explosion-proof. Winkler *et al.* discloses a sensor (Fig.) including an infrared energy source **1**, a gas-tight housing **40** intended for extreme conditions including explosive gases and gas mixtures, and transmissive section **12** in the form of a window. Winkler *et al.*

illustrates lines from detectors 3, 4 but does not otherwise describe the communication of information from the sensor outward from the housing 40. Since the method of Detwiler *et al.* provides a convenient method of communicating information using the energy source within the housing to avoid bulky electrical transmission (column 2, lines 20-28) which, in the method of Winkler *et al.* would raise an explosion risk, it would have been obvious to one of ordinary skill in the art to modify the method of Detwiler *et al.* by applying it to the sensor of Winkler *et al.* such that infrared energy source 1 was modulated to communicate information through the window 12 when not employed to interact with an analyte as otherwise described. The wireless activator 126 in the method of Detwiler *et al.* retains its utility in the extreme conditions of the sensor of Winkler *et al.*

With respect to dependent claim 4, the emission of energy from the infrared energy sources disclosed by Detwiler *et al.* and Winkler *et al.* (the incandescent lamp may be considered to have some emission in the visible range of the spectrum) is a choice within the ordinary skill in the art in view of such concerns as the detector employed, directivity desired, and the like.

With respect to dependent claim 12, the emission of energy from the energy source disclosed by Detwiler *et al.* is in the infrared but Winkler *et al.* shows with the incandescent lamp, which may be considered to have some emission in the visible range of the spectrum, that such an energy source may emit also energy in the visible light spectrum without any untoward effect. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to specify that the energy source in a method as suggested by Detwiler *et al.* and Winkler *et al.* would emit energy in the visible light spectrum.

With respect to dependent claim 14, the sensor of Detwiler *et al.* is an infrared sensor and the energy source is an infrared energy source (column 3, lines 44-45), but the transmissive section 18 is not a window. Winkler *et al.* discloses a sensor (Fig.) including an infrared energy source 1, a gas-tight

housing 40 intended for extreme conditions including explosive gases and gas mixtures, and transmissive section 12 in the form of a window. Winkler *et al.* illustrates lines from detectors 3, 4 but does not otherwise describe the communication of information from the sensor outward from the housing 40. Since the sensor of Detwiler *et al.* provides a convenient method of communicating information using the energy source within the housing to avoid bulky electrical transmission (column 2, lines 20-28) which, in the sensor of Winkler *et al.* would raise an explosion risk, it would have been obvious to one of ordinary skill in the art to modify the sensor of Detwiler *et al.* by applying its controller to the sensor of Winkler *et al.* such that infrared energy source 1 was modulated to communicate information through the window 12 when not employed to interact with an analyte as otherwise described.

With respect to dependent claim 15, the housing 40 in the sensor of Winkler *et al.* is considered explosion-proof.

With respect to dependent claim 16, the sensor of Detwiler *et al.* has at least a sensing mode as recited (column 3, lines 46-57) and a communications mode as recited (see rejection of claim 1). The sensor of Detwiler *et al.* further comprises at least one switch (in microprocessor 16) that can be activated as recited (column 4, lines 38-63).

18. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detwiler *et al.* (US005321492A) in view of Winkler *et al.* (US005923035A) and Schuldt (US005025653A).

With respect to dependent claim 17, the activation of the switch in the sensor of Detwiler *et al.* does not cause entry of a calibration mode. However, in the gas detection art represented by Winkler *et al.*, Schuldt shows that it is known in a sensor 12 (Fig. 3) to provide a switch that can be activated in a wireless manner from outside the housing to cause the sensor to enter a communications mode and to enter a calibration mode (column 8, line 47 to column 10, line 52).

Since the sensor of Detwiler *et al.* already uses the switch to enter a communications mode, and the utility of a calibration mode for a sensor is established by Schuldt, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the sensor suggested by Detwiler *et al.* and Winkler *et al.* to specify that microprocessor 6, when activated, caused the sensor to enter a calibration mode.

With respect to independent claim 18, Detwiler *et al.* discloses an infrared sensor system (Fig. 1) comprising an infrared sensor comprising a housing 10, an infrared energy source 14 within the housing, at least one detector 20 within the housing 10 adapted to detect interaction between energy 26 emitted by the source 14 and the analyte, an aperture 18 in the housing 10 through which energy 26 emitted from the source 14 can be transmitted, a controller 16 within the housing 10 in operative connection with the source 14 to modulate emission of energy 26 from the source 14, and at least one switch (in the microprocessor) operable to change a mode of the sensor from a sensing mode as recited to a communication mode in which the controller 6 modulates the energy source 14 to communicate information through the aperture. The aperture in the sensor of Detwiler *et al.* is not a window, but see the rejection of claims 3 and 14 for the suggestion Winkler *et al.* makes for providing a window 12. The second mode of the sensor of Detwiler *et al.* is not a calibration mode, but see the rejection of claim 17 for the suggestion Schuldt makes for a calibration mode. Schuldt further discloses a calibration cap 25 (Fig. 3) adapted to be placed in operative connection with the sensor housing 12. The calibration cap 25 of Schuldt comprises at least one activator (starting with the motion of pin 34) adapted to affect a switch in a wireless manner to place the sensor in a calibration mode, see the rejection of claim 17. Since the system of Detwiler *et al.* already uses the switch to enter a communications mode, and the utility of a calibration mode for a sensor is established by Schuldt, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the system suggested by Detwiler *et al.* and Winkler *et al.* to specify the inclusion of a calibration cap comprising at least one activator adapted to affect microprocessor 6 in a wireless manner (by the light transmission described by Schuldt) such that the sensor entered a calibration mode.

Response to Submission(s)

19. The Examiner acknowledges consideration of the International Preliminary Examination Report in International Application PCT/US04/030123. MPEP § 1893.03(e). Any modulation of source 1 in Winkler cannot be fairly considered to constitute information as required by claims 1, 13, and 18.

20. This application has been published as US2005/0127297A1 on June 16, 2005.

Allowable Subject Matter

21. Claims 5-11, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter: in combination with a method of communicating or infrared sensor system as otherwise described, no magnets are suggested; the calibration cap suggested by Schuldt has no detector or display.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Constantine Hannaher
Primary Examiner

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